



UNITED STATES PATENT AND TRADEMARK OFFICE

9/m
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/510,974 | 02/21/2000 | Rex Petersen | 10001834 | 1706 |

7590 11/15/2002

Hewlett- Packard Company
Intellectual Property Administration
P O Box 272400
Fort Collins, CO 80528-9599

EXAMINER

WHITMORE, STACY

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2812

DATE MAILED: 11/15/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/510,974

Applicant(s)

PETERSEN ET AL.

Examiner

Stacy A Whitmore

Art Unit

2812

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 February 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ho (6,128,768) in view of Mahajan (6,327,696).

2. As for claims 1, 11 and claim 21, Ho taught the invention substantially as claimed, including A chip VLSI chip whose design was performed according to a method for VLSI chip design comprising the steps of:

(means for) estimating signal routes between functional blocks [abstract – connectivity based database....organized by net -; col. 1, lines 29-40; col. 4, lines 44-59; see also fig. 1b elements 143, 147, and 149; col. 5 – 6, and col. 10];

(means for) determining R and C values for the estimated signal routes; and
(means for) building a model of said signal routes including R and C values [col. 5, lines 34-45; col. 5, line 66 – col. 6, line 7, and lines 24-33] [the means for limitation is met by Ho's use of computer hardware and software].

Ho did not disclose wherein the VLSI design is in register transfer language.

Mahajan taught VLSI design is in register transfer language [col. 9, lines 33-40].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Ho and Mahajan because both Ho and Mahajan disclose methods of circuit design including routing, and the use of the RTL code for the VLSI design, which is used with routing, in order to represent the interconnection of elements within the VLSI design [see Mahajan, col. 9, lines 33-40].

3. As for claims 2 and 12, Ho taught foliating nodes in estimated signal routes [col. 5, line 9, and col. 6, line 45, see also fig. 9, technology and interconnection sections].

4. As for claims 3 and 13, Ho taught generating a connectivity net list from said model [col. 5, lines 18-26].

5. As for claims 4 and 14, Ho taught said step of estimating is performed based on input of a floor plan and a connectivity description [col. 4, lines 43-59].

6. As for claims 5 and 15, Ho taught said step of estimating is performed in response to one or more control factor inputs [col. 5, lines 61-66].

7. As for claims 6 and 16, Ho taught said control factor input specifies a signal routing algorithm [col. 10, lines 6-10].

8. As for claims 7 and 17, Ho taught said step of estimating is performed based on input of signal path configuration parameters [col. 10, lines 6-10].

9. As for claims 8 and 18, Ho taught said signal route configuration parameters specify one or more signal path material, physical size of signal path material or spacing [col. 10, lines 6-10].

10. As for claims 9 and 19, Ho taught step of estimating is performed in response to one or more control factor inputs [col. 10, lines 6-10].

Art Unit: 2812

11. As for claims 10 and 20, Ho taught said control factor input specifies a signal routing algorithm [col. 10, lines, 6-10].

12. Applicant's arguments with respect to claims 1-21, have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stacy A Whitmore whose telephone number is (703) 305-0565. The examiner can normally be reached on Monday-Thursday, alternate Friday 6:30am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling can be reached on (703) 308-3325. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Stacy A Whitmore
Patent Examiner
Art Unit 2812



SW
November 13, 2002